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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/034,336	03/04/1998	HAJIME AGA	AGA-6	3212

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EXAMINER

MORAN, MARJORIE A

ART UNIT PAPER NUMBER

1631

DATE MAILED: 07/24/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

09/034,336

**Applicant(s)**

AGA ET AL.

**Examiner**

Marjorie Moran

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 May 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5,10 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,10 and 32-36 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

Claims 5, 10, and 31-36 are pending; claims 5 and 33 were amended in the response filed 5/20/02. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. All rejections and objections not repeated below are hereby withdrawn.

***Claim Objections***

Claim 5 is objected to because of the following informalities: the term "pant" in line 12 should be --plant--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Amended claims 5, 10, and 31-36 are newly rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Methods wherein a decrease in active-oxygen-eliminating activity is associated with slicing, disrupting, or boiling a fresh plant or edible part thereof are new matter. The originally filed specification teaches a method for inhibiting the decrease in active-oxygen-eliminating activity by adding trehalose to a fresh plant or edible part thereof, on pages 3-4, and teaches that the plant or edible part may be disrupted, minced, pulverized, extracted, or cut, on pages 6-7 and 8-9, and Experiments 1-3. Originally filed claim 5 teaches a method of inhibiting the

reduction of active-oxygen-eliminating activity by incorporating trehalose into a plant substance; originally filed claim 5 limits the plant substance to one in the form of a sliced, disrupted, pulverized, or extracted edible part. The originally filed claims do not recite boiling. The originally filed specification teaches addition of trehalose to sliced fresh carrots during boiling (Example B-18), but does not teach loss of any activity associated with boiling, cutting, slicing, pulverizing, or disrupting plant parts. Nowhere do the originally filed claims or specification recite or teach that the reduction or decrease in active-oxygen eliminating activity is associated with the slicing, disruption or boiling of a fresh plant or edible part thereof, therefore the claims are rejected for reciting new matter.

***Claim Rejections - 35 USC § 112, 2<sup>nd</sup> paragraph***

Claims 5, 10, and 31-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended claims 5 and 33 newly limit an inhibitory agent to one "having an active-oxygen-eliminating activity comprising ... trehalose" and pullulan or cyclodextrin. For ease of reference, a combination of trehalose and pullulan or of trehalose and cyclodextrin will be referred to hereafter as a "trehalose composition." It is unclear if applicant intends the active-oxygen-eliminating activity to comprise a trehalose composition; or intends the inhibitory agent to comprise BOTH active-oxygen-eliminating activity AND a trehalose composition; or intends the trehalose composition to comprise the active-oxygen-eliminating activity; or intends some other limitation of the inhibitory agent with regard to active-oxygen-eliminating activity and a trehalose composition, therefore the claims are indefinite. If applicant intends the active-

oxygen-eliminating activity to comprise a trehalose composition, then the claim is further indefinite as it is unclear how an "activity" comprises a compound or composition. Applicant is advised that this limitation may also result in a lack of enablement rejection. If applicant intends that the inhibitory agent comprise both an active-oxygen eliminating activity AND a trehalose composition, then the examiner suggests rewriting the claim to make the limitation intended clear. If applicant intends that the trehalose composition be limited to one having an active-oxygen-eliminating activity, then the examiner again suggests that the claim be rewritten to make this intent clear. Applicant is further advised that this limitation may result in a new matter rejection, and is requested to provide specific direction (e.g. by page and line number) to where specific support may be found in the originally filed specification or claims for a trehalose composition which, in itself, has an active-oxygen-eliminating activity. It is noted that support for an inhibitory agent which comprises both a trehalose composition and active-oxygen-eliminating activity is found on pages 7-8 of the originally filed specification, which teaches that such activity may be endogenous to the plant materials, or may be added as an exogenous anti-oxidant. Applicant is advised that the examiner does not consider the teachings of pages 7-8 to be supportive of a limitation wherein trehalose, pullulan or cyclodextrin comprise anti-oxidant activity. In view of the teachings of the specification, and for purposes of searching the prior art, the examiner interprets the claims to recite an inhibitory agent which comprises both active-oxygen-eliminating activity and a trehalose composition.

Claims 5 and 33 recite the phrase "effective amount" with regard to trehalose in lines 15 and 14, respectively. It is unclear what the amount of trehalose is intended to be effective for; i.e. inhibition alone, or oxygen-eliminating activity only, a combination of inhibition and oxygen-eliminating activity, or another activity (e.g. sweetening), therefore the claims are indefinite.

Applicant has not amended the claims or set forth any arguments to overcome this rejection, therefore the rejection is maintained.

***Claim Rejections - 35 USC § 103***

Examiner's note: As set forth in previous office actions, for ease of reference, the examiner will use the term "antioxidant" to refer to "active-oxygen-eliminating" activities and compounds, with the understanding that applicant intends "active-oxygen-eliminating", as recited in the claims, to encompass a broader range of activities and compounds than "antioxidants."

Claims 5, 10, and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over MARUTA *et al.* (US 5,472,863), as supported by CARDONA (DE 3552309 A1).

Applicant's arguments filed 5/20/02 have been fully considered but they are not persuasive. In response to the argument that MARUTA neither teaches nor suggests use of trehalose to inhibit the decrease of active-oxygen-eliminating ability, it is noted that applicant admits on page 6 of the response that MARUTA teaches that trehalose may be used as a stabilizer and "quality-improving" agent, and admits that MARUTA teaches that trehalose may be used as such in a variety of compositions, including a food product. As MARUTA teaches that trehalose can be used to stabilize antioxidants, as previously set forth, and as stabilization necessarily would "inhibit the decrease" of antioxidant activity (e.g. wherein a decrease in such activity is due to degradation of the antioxidant), then the examiner maintains that MARUTA's teaching that trehalose stabilizes antioxidants is a teaching that trehalose exhibits the activity recited in the instant claims. In response to the argument that MARUTA does not teach addition of trehalose to fresh plants which have been sliced or disrupted, applicant's attention is drawn to (col. 13, lines 26-27, 40, 46, and 51 ) wherein MARUTA teaches that trehalose may be added to fresh pickles, baby food, juice, and wild edible plants, as previously set forth. Also as

previously set forth in the office action of 12/31/01, all of the above are interpreted to be teachings of fresh disrupted or sliced plants. Applicant has not set forth any arguments with regard to this interpretation of MARUTA, therefore the examiner maintains that MARUTA teaches addition of trehalose to sliced or disrupted plant parts. In response to the argument that CARDONA adds nothing to MARUTA, it is noted that CARDONA is relied upon merely for support that the vitamins taught by MARUTA to be stabilized by trehalose are, in fact, antioxidants. It is noted that the instant specification also teaches, on page 2, that some vitamins are known antioxidants, and may be "stabilized" by trehalose. As MARUTA teaches addition of trehalose to disrupted and/or sliced plant parts, and teaches that trehalose stabilizes antioxidants, thereby "inhibiting the decrease" of antioxidant activity, as previously set forth and maintained above, the rejection is maintained.

Claims 5, 10, and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over MARUTA *et al.* (US 5,472,863), as supported by CARDONA (DE 3552309 A1), in view of MANDAI *et al.* (US 5,543,513).

Applicant's arguments filed 5/20/02 have been fully considered but they are not persuasive. Applicant merely argues that MANDAI adds nothing to the argued deficiencies of MARUTA and CARDONA, and argues that MANDAI "has absolutely nothing at all to do with inhibiting active-oxygen-eliminating ability" in fresh plant products. As in the previous office action, the examiner assumes applicant intends to argue that MANDAI does not teach inhibition of a *decrease* in active-oxygen-eliminating activity, as recited in the instant claims. In response, it is noted that applicant has previously admitted that MANDAI teaches stabilization of food products by trehalose. As previously set forth and reiterated above, stabilization of a compound necessarily inhibits a decrease in that compound's activity, therefore MANDAI's teaching of

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stabilization reinforces MARUTA's teachings. As both MARUTA and MANDAI teach use of trehalose to stabilize food products, and both teach that at least some of those food products may be disrupted or sliced plant parts (e.g. both teach juice), the examiner maintains that the combination of references is obvious for the reasons and motivations previously set forth, and the rejection is maintained.

### ***Conclusion***

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

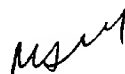
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marjorie A. Moran whose telephone number is (703) 305-2363. The examiner can normally be reached on Monday to Friday, 7:30 am to 4 pm EST.

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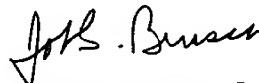
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (703) 308-4028. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to a patent analyst, Tina Plunkett, whose telephone number is (703) 305-3524.



Marjorie A. Moran  
Examiner  
Art Unit 1631

July 22, 2002



JOHN S. BRUSCA, PH.D  
PRIMARY EXAMINER